NDIA
21st Annual National Logistics Conference

Adapting Logistics Capabilities to National Security Requirements

Industry Keynote
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Agenda

- **A Walk through History**
- **What we can learn from the past**
- **Thoughts on logistics transformation**

The Origin of Logistics

- **From the Greek word “logistikos”**
  - **meaning “skilled in calculating”**

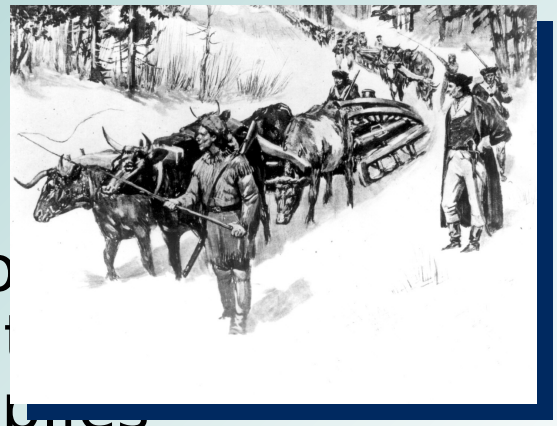
- **Originally used in Roman and Byzantine times when there was a military administrative official with the title “Logists”.**

- **The word implied a skill in the sciences of mathematical computations.**

When US Logistics Started

- By resolution in 1775 the Continental Congress provided for a staff to administer aspects of its military establishment. On 16 June legislation was passed authorizing an Adjutant General, a Commissary General of Stores and Provisions, Quartermaster General, among others

- The First TRANSCOM: The greatest responsibility of the quartermaster general was to provide transportatio but also had other duties related to t procurement and distribution of supplies



The beginning of the Defense Industrial Base

- 1639 ~ manufacture of gunpowde
  - Massachusetts Bay colony
- 1647 ~ Cannon cast in Lynn, Mass
  - and Bridgewater, Conn in 1648
- 1680 ~ powder mill at Dorchester

- After British prohibited in 1774 the export of firearms to the colonies, Massachusetts established a public arms factory.
  - Virginia established a plant at Rappahonnock Forge near Fredericksburg
  - 1775, Pennsylvania established a gunlock factory in Philadelphia. In the winter of 1775-

Historical Perspective, War of 1812

The Defense Industrial Base Grows with both Public Arsenels and Private Industry

- **1812, Eli Whitney accepts contract for the manufacture of muskets in Conn and New York but wanted a 20 year period to amortize the cost of tooling that was necessary to improve reliability**
- **Production of muskets at the national armories increased steadily from 1808 to 1812, at Springfield and Harper's Ferry**

- **1840-1850s ~ defense contracting evolves**

Defense Industrial Base continues to grow with a number of Private Industry suppliers providing rifles, pistols and swords.

Because the US Government is virtually the only customer the practice of renewable long term contracts

Reliance on Coalition Partners

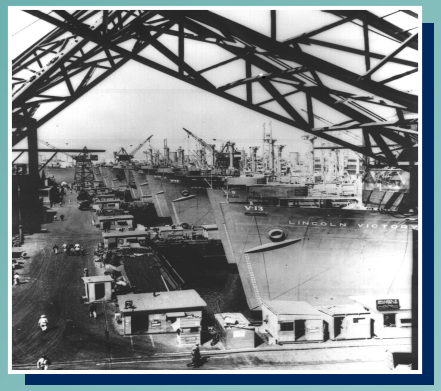
Revolution. General Washington continually handicapped by lack of munitions, supplies and transportation. The situation was improved by aid from France

Civil War. The Confederate army was hindered and never succeeded in overcoming its supply deficiencies even with some small arms and fabric from the UK and support from France late in the war.

WW I. The US Army could not have played the decisive role without weapons, munitions, supplies and transportation furnished by allies.

OIF. US forces were reliant on coalition and friendly allied support for water, fruits and vegetables and batteries, among other things.

LOGISTICS and Warfighting



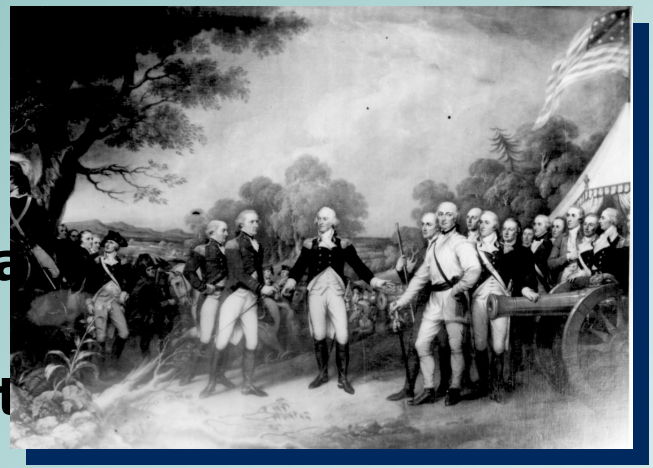
Logistics

Equivalence

Strategy

Tactics

Historical Perspective, Revolutionary War



- **Burgoyne's Surrender at Saratoga.**
  - **Breakdown of his transportation**
  - **Failure of procurement in Canada**
  - **Failure of procurement en route**
  - **Delays that gave the Americans t to reorganize**

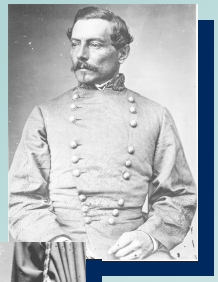
  - **What Borgoyne considered essential in numbers of men and artillery and baggage proved to be only a burden against success.**

  - **In moving heavy ordinance and stores he lost one of the most important elements in warfare - timing**

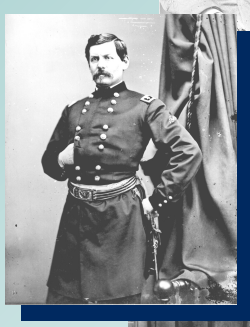
  - **For the Americans, lines of communication remained open, resupply generally was adequate, and troops were sufficiently well re-equipped**

Historical Perspective, Civil War Logistics and Missed Opportunities

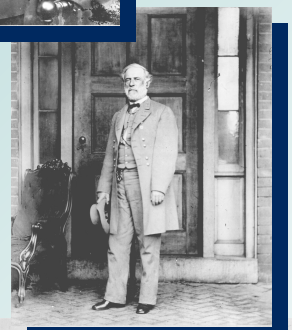
1st Manassas: If Confederate forces had logistics support they could have pursued Federal Forces all the way to Washington.



Peninsular Campaign, Spring 1862, McClellan moved 110,000 men and supplies employing 400 steamers and sailing vessels, 14,500 animals and 44 batteries of artillery.



Antietam: Logistics provides an opportunity, not exploited ~ because of an extraordinary use of the railroads for resupply, McClellan was provided the means to renew the attack and gain a decisive victory over Lee's forces. In Sept 1862, it could have been over.

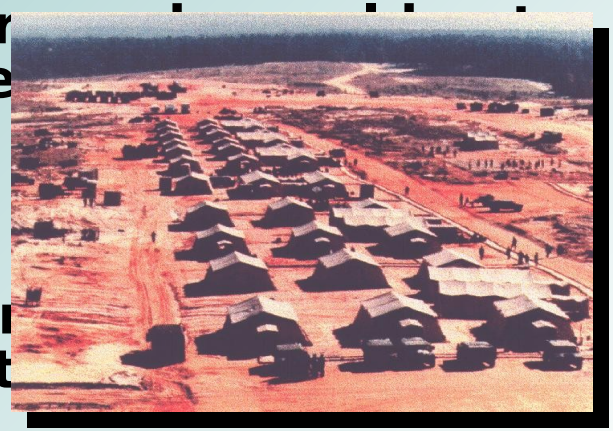


Gettysburg: The Union Victory at Gettysburg can be ascribed to an immense logistical advantage through use of railroads to bring up supplies and men to General Meade. The federal side had enough supplies to continue the battle for days. Even without the Confederate's "tactical errors" they could not have been able to sustain the

Historical Perspective:
To what extent have things changed?

Quote from the Army Chief of Military History about the
North Africa and Mediterranean Campaign in 1942

"A situation as shocking to the War Department as it was embarrassing to the Services of Supply in the European theater developed when it became necessary to reorder large quantities of Class II {clothing and weapons} and IV {construction and fortification} supplies that were knowns to be already in the United Kingdom but which, because of faulty marking and lack of proper r
be found in time to equip the force
from Britain.



It hardly helped matters when requisitions arrived without proper identification and when timely stat of supply reports were lacking."

The Classical Principles of Logistics Continue to Apply

- **First with the most**
- **Equivalence**
- **Materiel Precedence**
- **Economy**
- **Flexibility and Dispersion**
- **Feasibility**
- **Timing**
- **Unity of Command**
- **Knowledge through Information**

GAO Report on OIF

"A backlog of hundreds of pallets and containers of materiel at various distribution points due to transportation constraints and inadequate asset visibility."

"A discrepancy of $1.2 billion between the amount of materiel shipped to Army activities in the theater of operations and the amount of materiel that those activities acknowledged they received."

"A potential cost to DOD of millions of dollars for late fees on leased containers or replacement of DOD-owned containers due to distribution backlogs or losses."

"The cannibalization of vehicles and potential reduction of equipment readiness due to the unavailability of parts that either were not in DOD's inventory or could not be located because of inadequate asset visibility."

GAO Report on OIF

"The duplication of many requisitions and circumvention of the supply system as a result of inadequate asset visibility."

The accumulation at the theater distribution center in Kuwait of hundreds of pallets, containers, and boxes of excess supplies and equipment that were shipped from units redeploying from Iraq without required content descriptions and shipping documentation.

"DOD did not have adequate visibility over all equipment and supplies transported to, within, and from the theater of operations in support of OIF."

"DOD did not have a sufficient distribution capability in the theater to effectively manage and transport the large amount of supplies and equipment deployed during OIF."

GAO Report on OIF

"The failure to effectively apply lessons learned from Operations Desert Shield and Desert Storm and other military operations may have contributed to the logistics support problems encountered during OIF."

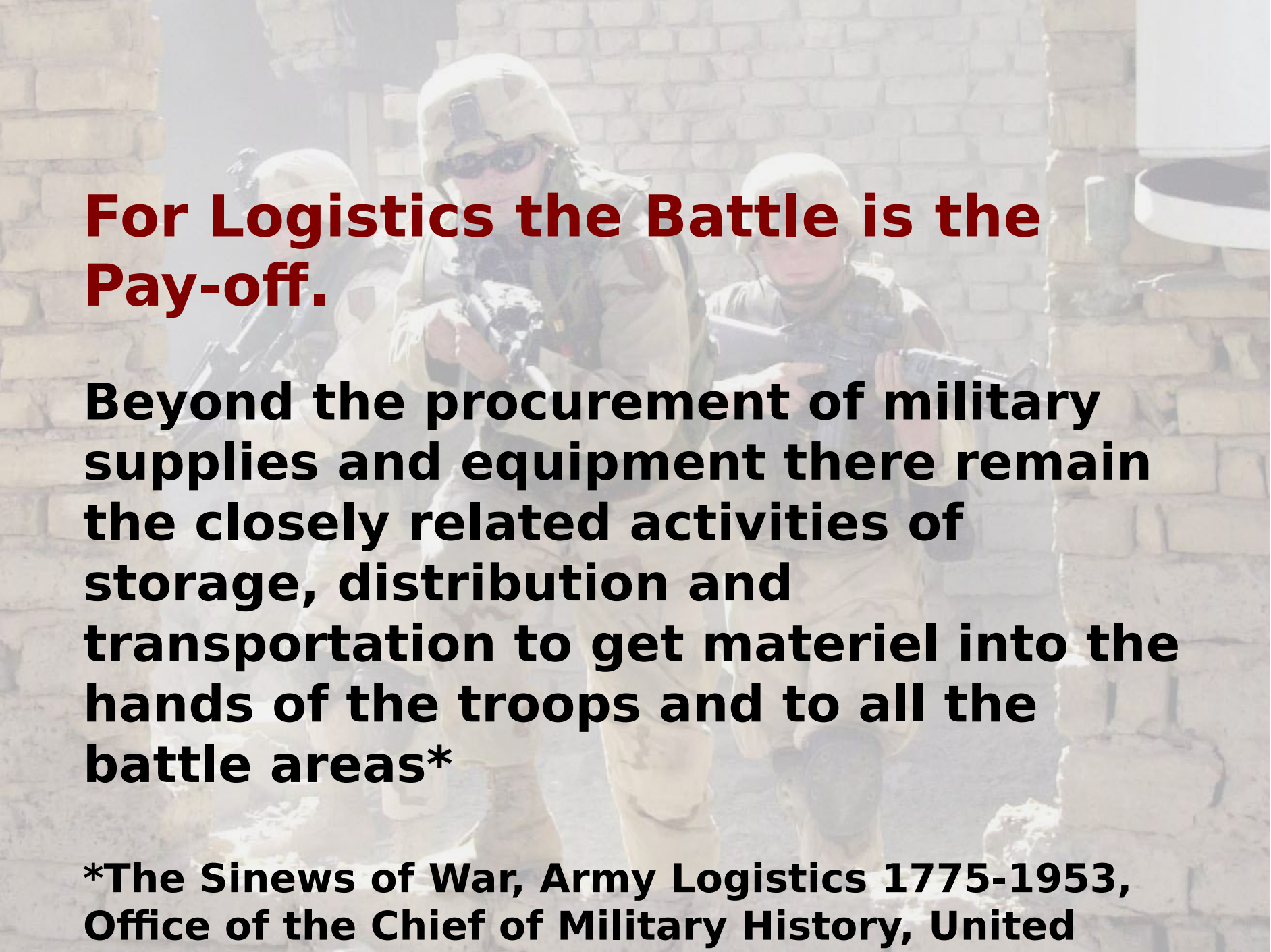
"At times there were shortages of some spares or repair parts needed by deployed forces.

"Army pre-positioned equipment used for OIF was not adequately configured to match unit needs.

GAO Report on OIF

"DOD contractors used for logistics support during OIF were not always effective.

"Physical security at ports and other distribution points in the theater was not always adequate to protect assets from being lost or taken by unauthorized personnel.



For Logistics the Battle is the Pay-off.

Beyond the procurement of military supplies and equipment there remain the closely related activities of storage, distribution and transportation to get materiel into the hands of the troops and to all the battle areas*

***The Sinews of War, Army Logistics 1775-1953, Office of the Chief of Military History, United**

The most elegant element of logistics transformation is the design of logistics solutions into the weapon system itself

- **Designing systems for maintenance free operation**
- **Use of autonomic solutions employing prognostics and health management**
- **Different ways of thinking about managing obsolescence through technology refresh strategies**
- **Performance Based Logistics Business strategies, for system level total sustainment, where long term contracts and tailored incentives force lean principles and continuous improvement in system level availability and TOC reduction**

Concluding Comments

- **Elegance of engineering solutions**
- **Courage to employ new business models**
- **Integration of logistics into the overall command and control so that we truly achieve equivalence as the classical principle states:**

Strategy, tactics and logistics,
as history has proven,
is what wins wars.

Lockheed Martin Proprietary Information 2004

A Historical Perspective to Drive the Future

“The line between disorder and order lies in logistics…”

…Sun Tzu

“My logisticians are a humorless lot … they know if my campaign fails, they are the first ones I will slay.”

…Alexander

“There is nothing more common than to find considerations of supply affecting the strategic lines of a campaign and a war.”

…Carl von Clausevitz

“Logistics comprises the means and arrangements which work out the plans of strategy and tactics. Strategy decides where to act; logistics brings the troops to this point.”

…Jomini: Precis de l' Art de la Guerre. (1838)

“Gentlemen, the officer who doesn't know his communications and supply as well as his tactics is totally useless.”

…Gen. George S. Patton, USA

“The war has been variously termed a war of production and a war of machines. Whatever else it is, so far as the United States is concerned, it is a war of logistics.”

…Fleet ADM Ernest J. King, in a 1946 report to the Secretary of the Navy

“Bitter experience in war has taught the maxim that the art of war is the art of the logistically feasible.”

…ADM Hyman Rickover, USN

“Forget logistics, you lose.”

…Lt. Gen. Fredrick Franks, USA, 7th Corps Commander, Desert Storm